

## STATE OF SOUTH DAKOTA CLASS SPECIFICATION

**Class Title: Transportation Engineering Specialist**

**Class Code: 40862**

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### **A. Purpose:**

Directs the activities of an engineering specialty and provides technical direction and recommendations to managers, other engineers, other agencies, individuals, consultants, contractors, and local governments to ensure uniform use and application of prevalent civil engineering principles throughout department rules, policies, and procedures.

### **B. Distinguishing Feature:**

The Transportation Engineering Specialist is the technical expert in one of the following designated, specialized, engineering areas: Aeronautics, Road Safety, Pavement Management, Pavement Design, Lighting and Signals, Hydraulics, Environmental Engineering, Bituminous Surfacing, Traffic, Concrete Surfacing, Construction, Maintenance, and Access Management and Corridor Preservation.

Transportation Lead Project Engineers provide work coordination and direction, and engineering expertise to a minimum of four professional positions, at least one of which is a Transportation Project Engineer; and manage assigned transportation projects.

### **C. Functions:**

*(These are examples only; any one position may not include all of the listed examples nor do the listed examples include all functions which may be found in positions of this class.)*

1. Interprets federal and state regulations pertinent to a specialty to aid the department, other state agencies, consultants, contractors, and local governments in the development of construction and maintenance projects and procedures.
  - a. Participates in developing project parameters by representing the specialty on scoping teams and making recommendations that comply with guidelines.
  - b. Evaluates strategic plans and budgets for local governments' projects to determine compliance with specialty guidelines, and recommends approval for federal funding.
  - c. Develops or approves proposals and study methods for needs assessments, analyzes study results for technical accuracy, and recommends new or revised procedures.
  - d. Participates in the selection of consultants and contractors, provides the necessary advice and training in department operations, and monitors their work for compliance with department requirements.
  - e. Acts as liaison among the department, other agencies, local governments, the public, and individuals to facilitate project development and completion.
  - f. Ensures projects are completed according to applicable guidelines, and recommends acceptance of work and approval of payments.
  - g. Maintains current knowledge of updated rules and technologies that impact the specialty; and conveys the information by developing, updating, and distributing policies, procedures, and technical manuals.
  - h. Oversees and conducts inspections in conformance with department and federal requirements to establish infrastructure condition and sufficiency levels.
2. Provides professional direction to staff, consultants, contractors, and local governments to ensure consistency and compliance with prevailing engineering principles and state and federal laws and regulations.
  - a. Provides project options and establishes deadlines for completion of project phases.

- b. Evaluates efficiency of designs, costs, and constructibility, and recommends more viable alternatives.
  - c. Determines alternatives to specification requirements and standard designs.
  - d. Prioritizes and assigns work, provides work direction and training as needed, monitors work progress, and reviews final products for compliance with applicable guidelines.
  - e. Directs plans reviews to ensure consistency and compliance with department policies and procedures and engineering principles and practices.
- 3. Provides technical expertise to support administrative decision-making and facilitate department operations.
  - a. Develops and revises policies, procedures, and standards.
  - b. Develops and negotiates contracts and agreements.
  - c. Ensures required permits and clearances are obtained.
  - d. Presents information at public hearings and meetings.
  - e. Represents the department on technical panels.
  - f. Finalizes and compiles projects and conducts bid-lettings.
  - g. Conducts field or site inspections to evaluate project impact and ensure construction and maintenance are in compliance with plans and department and federal policies and procedures.
  - h. Researches new technologies to ensure methods, materials, and procedures are current; and develops methodologies to implement and support changes.
- 4. Performs other work as assigned.

#### **D. Reporting Relationships:**

Reports to an administrative engineer. Provides professional and technical direction to other staff, consultants, contractors, local governments, and other agencies.

#### **E. Challenges and Problems:**

Challenged to interpret and apply the elements of an engineering specialty to the development of transportation projects with the most efficiency, and with the most sensitivity to public needs and safety. This is challenging because it requires knowledge of multiple engineering functions and how they interface; the ability to respond positively to diverse requests from the public that are often not feasible or justifiable, and the ability to proactively explain the department's point of view and resolve issues with agencies and individuals affected by construction and maintenance project development. Further challenged to assign, oversee, and establish requirements and deadlines for the work of others without the authority of direct supervision.

Problems include maintaining up-to-date knowledge of technology and rules changes and distributing the information to all those affected; assisting with resolution of problems that meets approval of other offices and conforms to, or justifiably changes, standards; ensuring large numbers of plans are completed on time; ensuring construction and maintenance operations comply with plans and department policies and procedures; and adjusting work schedules because of changing deadlines and priorities.

#### **F. Decision-making Authority:**

Decisions include whether engineering recommendations are the most efficient; schedule, assignment, and coordination of work to personnel; recommendations for construction and maintenance projects to be included in long-term planning; final content of plans; whether to accept work that is not in compliance, and recommendations for penalties for non-compliance; recommendations for project parameters; whether technical data is viable; recommendations for

new, and changes to, policies and procedures; recommendations for changes in specifications; recommendations for budget items.

Decisions referred include final approval of project parameters; policies and procedures; specification changes; budget; and projects incorporated into the planning process.

#### **G. Contact with Others:**

Daily contact with project engineers, local governments, other agencies, and consultant engineers to interpret rules, answer questions, and assist in project development; with the public to respond to a variety of requests for information and explanation; with businessmen and landowners to purchase property and explain project impact; and with department staff to provide interpretation of requirements, coordinate and schedule work, and provide work direction; weekly contact with administrative engineers to provide technical information and recommendations; with contractors to provide information about bid-lettings; with federal officials to provide statistics and information and request interpretation of standards; and with peers to exchange ideas and information; and monthly contact with vendors about new technology.

#### **H. Working Conditions:**

Works in a typical office environment; is exposed to traffic and construction equipment and processes while conducting site inspections; is exposed to laboratory equipment and materials; travels extensively.

#### **I. Knowledge, Skills, and Abilities:**

Knowledge of:

- engineering principles and practices as they are applied to public works;
- state and federal laws and regulations governing engineering processes;
- department and federal policies and procedures regarding project planning, development, design, and construction;
- state and federal fiscal and grant processes;
- the principles of effective human relations and dealing with the public.

Ability to:

- interpret and implement laws and regulations governing civil engineering procedures and practices;
- develop policies and procedures to implement program guidelines;
- effectively plan, organize, and prioritize work activities to meet schedules and deadlines;
- establish and maintain effective working relationships with other state agency representatives, federal program managers, local government officials, consultants, contractors, and the general public;
- make appropriate decisions by applying standards and available information to specific situations;
- communicate information clearly and concisely and develop ideas in a logical sequence.